



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,839	01/26/2004	Zhen He	200311240-1	9785
22879 7590 04/09/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER				
BRINICH, STEPHEN M				
ART UNIT		PAPER NUMBER		
2625				
NOTIFICATION DATE		DELIVERY MODE		
04/09/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM

mkraft@hp.com

ipa.mail@hp.com

### Office Action Summary

**Application No.**

10/764,839

**Applicant(s)**

HE ET AL.

**Examiner**

STEPHEN M. BRINICH

**Art Unit**

2625

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33 and 35 is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-14, 18-25, 29-32 and 36 is/are rejected.
- 7) ☒ Claim(s) 4-6, 15-17, 26-28 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/16/07, 1/15/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**UNITED STATES DEPARTMENT OF COMMERCE****U.S. Patent and Trademark Office**

Address : COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10764839	1/26/04	HE ET AL.	200311240-1

HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

**EXAMINER**

STEPHEN M. BRINICH

ART UNIT	PAPER
----------	-------

2625

20080401

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

/Stephen M Brinich/  
Examiner, Art Unit 2625

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7-10, 18-21, & 29-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, line 11; claim 18, line 12; and claim 29, line 9, the term "the dot placement indicator" lacks proper antecedent basis.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 11-14, 22-25, & 36 are rejected under 35 U.S.C. 102(e) as being anticipated by He et al (US 7031025).

Re claims 1, 11, 23, & 36, He discloses (column 5, lines 27-53) a halftone generation method and apparatus that modulates dot density and dot size in accordance with obtained density and dot size factors and also (column 7, lines 16-28, particularly lines 25-28) modulates cluster size (by grouping clusters into larger clusters) in order to translate an original pixel intensity into a halftone representation based on original pixel intensity.

Re claim 12 & 22, He discloses (Figure 4; column 5, lines 6-9) the implementation of this method and apparatus under the control of a computer (which necessarily follows instructions contained in a computer-readable medium).

Re claims 2, 13, & 24, He et al discloses (Figure 5; column 5, line 54 - column 6, line 6) the implementation of error diffusion in order to distribute pixel intensity errors as part of the modulation of dot density.

Re claim 3, 14, & 25, He et al discloses (Figure 5; column 5, line 54 - column 6, line 6) that the above described implementation of error diffusion in order to distribute pixel intensity errors as part of the modulation of dot density makes use of a look-up table to acquire a dot density factor.

***Allowable Subject Matter***

5. Claims 33 & 35 are allowed.
6. Claims 4-6, 15-17, 26-28, & 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claims 7-10, 18-21, & 29-32, insofar as they are understood, would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter:  
  
Re claims 4, 15, & 26 (and dependent claims 5, 16, & 27), the art of record does not teach or suggest the recited control of a dot cluster size comprising calculation of a threshold value as a function of a dot screen and a cluster value and modulation of the dot density in a way that comprises incorporating an error diffusion algorithm in conjunction with the recited halftone process that modulates dot density, controls dot cluster size, and modulates dot size.

Re claims 6-7, 17-18, & 28-29 (and dependent claims 8-10, 19-21, & 30-32), insofar as claims 7-10, 18-21, & 29-32 are understood, the art of record does not teach or suggest the recited generation of a dot placement indicator used in dot size modulation in conjunction with the recited halftone printing as a function of a cluster factor, a dot density factor, and a dot size factor.

Re claims 33 & 35, the art of record does not teach or suggest the recited placement control operable to calculate a threshold value as a function of the recited dot screen and cluster factors, and implement error diffusion as a function of the recited dot density factor, in conjunction with the recited halftone printing as a function of a cluster factor, a dot density factor, and a dot size factor.

### ***Conclusion***

9. Any inquiry concerning the contents of this communication or earlier communications from the examiner should be directed to Stephen M. Brinich at 571-272-7430.

Any inquiry relating to the status of this application, entry of papers into this application, or other any inquiries of a general nature concerning application processing should be directed to the Tech Center 2600 Customer Service center at 571-

272-2600 or to the USPTO Contact Center at 800-786-9199 or 571-272-1000.

The examiner can normally be reached on weekdays 8:00-5:30, alternate Fridays off.

If attempts to contact the examiner and the Customer Service Center are unsuccessful, supervisor David Moore can be contacted at 571-272-7437.

Faxes pertaining to this application should be directed to the Tech Center 2600 official fax number, which is 571-273-8300.

Hand-carried correspondence may be delivered to the Customer Service Window, located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

/Stephen M Brinich/

Primary Examiner, Art Unit 2625